Application No. 10/082,593
Inventors: Akira Hamamatsu et al.
Amendment Under 37 CFR 1.116
Expedited Procedure Examining Group 2800

PATENT

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently amended) A method for inspecting semiconductor devices comprising:

setting, by accessing via a communication device a design database with inputting receiving a product name of a semiconductor device to be inspected and a process name that identifies a process by which the semiconductor device is to be inspected; from a terminal and

accessing a design database to down load deriving design information associated with the semiconductor device, wherein the design information is identified using the received product name and the received process name; from said database, an inspection condition

processing the down loaded design information to set temporary inspection conditions, wherein the temporary inspection conditions comprise at least one of an inspection area of the semiconductor device, an alignment pattern of the semiconductor device, a spacial filter associated with the semiconductor device, or an area of the semiconductor device to be excluded;

executing a trial inspection of inspecting the semiconductor device to detect defects, wherein the trial inspection is executed using the set temporary with said inspection conditions condition set by using design information derived from said design database;

classifying the said detected defects according to whether the said defect is on an optically transparent film or not;

revising the said temporary inspection conditions condition by using data obtained by the executed trial inspection inspecting; and

inspecting another semiconductor device using the said revised temporary inspection conditions condition.

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PATENT

2.   (Currently amended) The method for inspecting semiconductor devices according to claim 1, wherein one of the temporary ~~said~~ inspection conditions ~~condition~~ identifies the ~~comprises information whether or not an area for~~ inspection area of the semiconductor device as ~~is in~~ an area in which an inaccurately detected defect is likely ~~false alarms tend~~ to occur.

3.   (Canceled)

4.   (Currently amended) A method for inspecting semiconductor devices comprising:

~~setting inspection conditions by accessing via a communication device a design database with inputting~~ receiving a product name of a semiconductor device to be inspected and a process name that identifies a process by which the semiconductor device is to be inspected; ~~from a terminal and~~

accessing a design database to down load ~~deriving~~ design information associated with the ~~of a~~ semiconductor device, wherein the design information is identified using the received product name and the received process name ~~from said database~~;

processing the down loaded design information to set temporary inspection conditions, wherein the temporary inspection conditions comprise at least one of an inspection area of the semiconductor device, an alignment pattern of the semiconductor device, a spacial filter associated with the semiconductor device, or an area of the semiconductor device to be excluded;

executing a trial inspection of ~~inspecting~~ the semiconductor device to detect defects, wherein the trial inspection is executed using the set temporary ~~with said~~ inspection conditions ~~set by using design information derived from said design database~~;

classifying the detected defects ~~detected by inspecting said semiconductor device~~ according to whether the ~~said~~ defect is on an optically transparent film ~~or not~~; and

outputting results of the <u>executed trial inspection, wherein the results include</u> ~~inspecting of the semiconductor devices by adding~~ information on whether <u>the</u> ~~said~~ detected defect is on an optically transparent film~~ or not~~.

5.   (Currently amended) The method for inspecting semiconductor devices according to claim 4, wherein <u>one of the temporary</u> ~~said~~ inspection conditions <u>identifies the</u> <u>inspection area of the semiconductor device as</u> ~~set at said setting comprises information whether or not an area to be inspected is in~~ an area in which <u>an inaccurately detected defect is likely</u> ~~false alarms tend~~ to occur.

6.   (Currently amended) The method for inspecting semiconductor devices according to claim 4, further comprising revising <u>the set temporary</u> ~~said~~ inspection conditions ~~set at said setting~~ so that only actual foreign matter <u>on the semiconductor device</u> is detected <u>as a</u> <u>defect</u> or <u>an inaccurately detected defect</u> ~~a false alarm rate~~ is less than a preset amount.

7.   (Currently amended) A method for inspecting semiconductor devices comprising:

~~setting semiconductor device inspection conditions by accessing via a communication device a design database with inputting~~ <u>receiving</u> a product name <u>of a</u> <u>semiconductor device</u> and <u>a</u> process name <u>that identifies a process by which the semiconductor</u> <u>device is to be inspected;</u> ~~from a terminal and~~

<u>accessing a design database to down load</u> ~~deriving~~ design information <u>associated</u> <u>with the semiconductor device, wherein the design information is identified using the received</u> <u>product name and the received process name</u> ~~from said design database~~;

<u>processing the down loaded design information to set temporary inspection</u> <u>conditions, wherein the temporary inspection conditions comprise at least one of an inspection</u> <u>area of the semiconductor device, an alignment pattern of the semiconductor device, a spacial</u> <u>filter associated with the semiconductor device, or an area of the semiconductor device to be</u> <u>excluded;</u>

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PATENT

executing a trial inspection of the semiconductor device to detect ~~detecting~~ defects, wherein the trial inspection is executed using an optical inspection tool that is configured to execute the trial inspection based on the ~~by inspecting semiconductor devices using said~~ set temporary inspection conditions ~~by using design information derived from said design database with an optical inspection tool~~;

classifying the detected defects ~~detected at said detecting~~ according to whether the ~~said~~ defect is on an optically transparent film ~~or not~~; and

outputting a result of the executed trial inspection, wherein the result identifies ~~said detecting by adding information on~~ whether the ~~or not said~~ detected defect can be reviewed ~~is possible to review~~ by a scanning electron microscope ~~SEM based on said classifying~~.

8.   (Currently amended) The method for inspecting semiconductor devices according to claim 7, wherein images of the detected ~~said classified~~ defects are displayed on a screen.

9.   (Canceled)

10.   (Currently amended) The method for inspecting semiconductor devices according to claim 7, further comprising revising the ~~said~~ set temporary inspection conditions based on the classification of the detected ~~condition by using information of said classified~~ defects.

11-13. (Canceled)

14.   (Currently amended) A method for inspecting a semiconductor device comprising:

~~setting inspection conditions for a semiconductor device by accessing via a communication device a design database with inputting~~ receiving a product name of a semiconductor device to be detected and a process name that identifies a process by which the semiconductor device is to be inspected; ~~from a terminal and~~

accessing a design database to down load ~~deriving~~ design information associated with the semiconductor device, wherein the design information is identified using the received product name and the received process name ~~from said design database~~;

processing the down loaded design information to set temporary inspection conditions, wherein the temporary inspection conditions comprise at least one of an inspection area of the semiconductor device, an alignment pattern of the semiconductor device, a spacial filter associated with the semiconductor device, or an area of the semiconductor device to be excluded;

executing a trial inspection of the ~~inspecting said~~ semiconductor device to detect defects, wherein the trial inspection is executed using an optical inspection tool that is configured to execute the trial inspection based on the ~~under said~~ set temporary inspection conditions ~~by using design information derived from said design database an optical inspection tool~~; and

classifying the detected defects ~~detected at said detecting~~ according to whether the ~~said~~ defect is on an optically transparent film ~~or not,~~

~~wherein said classifying comprises providing information on whether said detected defects are on an optically transparent film or optically non-transparent film~~.

15.   (Currently amended) The method of claim 14 further comprising revising the set temporary ~~said~~ inspection conditions ~~set by using said design information~~.

16-20. (Canceled)